

Appln. No. 10/763,734
Amendment dated October 4, 2007
Reply to Office Action mailed June 4, 2007

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims (deleted text being struck through and added text being underlined):

1. (Currently Amended) A method of creating a virtual disk storage construct using disk storage consolidated from at least two grid computers of a computing grid utilizing a connecting network, comprising:

locating an unused portion of disk storage space on a disk drive of each of the at least two grid computers connected by the connecting network of the computing grid; ~~and~~

presenting, as a single combined virtual storage drive on at least one computer, a portion of the unused portion of the disk storage space from the disk drive of each of the at least two grid computers; and

monitoring at least one of the grid computers for activity indicating that additional disk storage space has been added to the at least one grid computer.

2. (Original) The method of claim 1 additionally including allocating a portion of the total disk storage space on each of the at least two grid computers to be made available as part of the virtual storage drive.

3. (Previously Presented) The method of claim 2 additionally including reserving a portion of predetermined size of the total disk storage space on each of the at least two grid computers, said reserved portion of the disk drives being reserved for local use on the respective grid computer of the at least two grid computers.

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4. (Previously Presented) The method of claim 1 additionally including determining the total disk storage space on each of the at least two grid computers and allocating the total disk storage space between a portion made available for use as part of the virtual storage drive and a portion reserved for local use on the grid compute;

wherein the portion available for use as part of the virtual storage space is of a fixed size and the portion reserved for local use on the grid computer is of a fixed size.

5. (Original) The method of claim 1 additionally including maintaining a table of grid computers contributing storage space to the virtual storage drive and corresponding amounts of storage space made available by each contributing grid computers.

6. (Cancelled)

7. (Currently Amended) The method of claim [[[6]]] 1 additionally including allocating disk storage space on the at least one grid computer after detecting activity indicating that additional storage space has been added to the at least one grid computer.

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8. (Currently Amended) A method of creating a virtual disk storage construct using disk storage consolidated from at least two grid computers of a computing grid utilizing a connecting network, comprising:
locating an unused portion of disk storage space on a disk drive of each of the at least two grid computers connected by the connecting network of the computing grid; ~~and~~

presenting, as a single combined virtual storage drive on at least one computer, a portion of the unused portion of the disk storage space from the disk drive of each of the at least two grid computers;

receiving on one of the at least one grid computers, from a local user of the one grid computer, designation of a predetermined minimum amount of disk storage space on the disk drive of the one grid computer to be reserved from inclusion in the single combined virtual storage drive;

monitoring ~~at least the one of the grid computers~~ computer for activity indicating that ~~[[[a]]] the~~ predetermined minimum amount of free reserved disk storage space of the total disk storage space on the one grid computer has not been maintained; ~~and~~

wherein the predetermined minimum amount of ~~free reserved~~ disk storage space is set by the local user using an agent application on the at least one grid computer.

9. (Currently Amended) The method of claim 8 additionally including allocating disk storage space on the ~~at least one~~ grid computer for use by local applications after detecting activity indicating that the minimum amount of ~~free reserved~~ disk storage space has not been maintained to restore at least the predetermined minimum amount of ~~free reserved~~ disk storage space.

10. (Currently Amended) The method of claim 1 additionally including providing a safe area on the disk storage space of the virtual storage drive, the safe area being kept free of data.

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11. (Previously Presented) The method of claim 1 additionally including loading an agent application on each of the grid computers for managing the portion of the unused portion of the total disk storage space on the grid computer made available for the virtual storage drive.

12. (Original) The method of claim 4 additionally comprising copying data from a reserved portion of the disk storage space of at least one of the grid computers to an available portion of at least two other grid computers of the computing grid that have been made available to the virtual storage drive to thereby backup the copied data from the reserved portion of the at least one grid computer.

13. (Currently Amended) A computer readable medium tangibly embodying a program of instructions implementing the following method of creating a virtual disk storage construct using disk storage consolidated from at least two grid computers of a computing grid utilizing a connecting network:

locating an unused portion of a total disk storage space on at least one disk drive of each grid computer of the at least two grid computers connected by the connecting network of the computing grid;

allocating a portion of the total disk storage space on each of the at least two grid computers to be made available as part of the virtual storage drive;

reserving a portion of predetermined size of the total disk storage space on each of the at least two grid computers, said reserved portion of the disk drives being reserved for local use on the respective grid computer of the at least two grid computers; and

presenting, on at least one computer, a portion of the unused portion of the total disk storage space of each of the at least two grid computers as a single combined virtual storage drive.

14. through 15. (Cancelled)

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16. (Original) The computer readable medium of claim 13 additionally implementing the step of monitoring at least one of the grid computers for activity indicating that additional disk storage space has been added to the at least one grid computer.

17. (Previously Presented) The computer readable medium of claim 13 additionally implementing the step of monitoring at least one of the grid computers for activity indicating that a minimum amount of free disk storage space of the total disk storage space on the grid computer has not been maintained.

18. (Previously Presented) The computer readable medium of claim 13 additionally implementing the step of providing a safe area on disk storage space of the virtual storage drive, the safe area being kept free of data.

19. (Currently Amended) The computer readable medium of claim ~~15~~ 13 additionally implementing the step of copying data from a reserved portion of the disk storage space of at least one of the grid computers to an available portion of at least two other grid computers of the computing grid that have been made available to the virtual storage drive to thereby backup the copied data from the reserved portion of the at least one grid computer.

20. (Cancelled)

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21. (Previously Presented) A method of creating a virtual disk storage construct using disk storage consolidated from at least two grid computers of a computing grid utilizing a connecting network, comprising:

- locating an unused portion of a total disk storage space on at least one disk drive of each grid computer of the at least two grid computers connected by the connecting network of the computing grid; and
- presenting, on at least one computer, a portion of the unused portion of the total disk storage space of each of the at least two grid computers as a single combined virtual storage drive;
- determining the total disk storage space on each of the at least two grid computers and allocating the total disk storage space between a portion made available for use as part of the virtual storage drive and a portion reserved for local use on the grid computer;
- allocating a portion of the total disk storage space on each of the at least two grid computers to be made available as part of the virtual storage drive;
- reserving a portion of predetermined size of the total disk storage space on each of the at least two grid computers, said reserved portion of the disk drives being reserved for local use on the respective grid computer of the at least two grid computers;
- maintaining a table of grid computers contributing storage space to the virtual storage drive and corresponding amounts of storage space made available by each contributing grid computers;
- monitoring at least one of the grid computers for activity indicating that additional disk storage space has been added to the at least one grid computer, and reallocating disk storage space on the at least one grid computer after detecting activity indicating that additional storage space has been added to the at least one grid computer;
- monitoring at least one of the grid computers for activity indicating that a minimum amount of free disk storage space of the total disk storage space on the grid computer has not been maintained, and allocating disk

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storage space on the at least one grid computer for use by local applications after detecting activity indicating that the minimum amount of free disk storage space has not been maintained to restore at least the minimum amount of free disk storage space;

providing a safe area on disk storage space of the virtual storage drive, the safe area being kept free of data;

loading an agent application on each of the grid computers for managing the portion of the unused portion of the total disk storage space on the grid computer made available for the virtual storage drive; and

copying data from the reserved portion of the disk storage space of at least one of the grid computers to an available portion of at least two other grid computers of the computing grid that have been made available to the virtual storage drive to thereby backup the copied data from the reserved portion of the at least one grid computer.

22. (Cancelled)

23. (New) The method of claim 3 wherein reserving a portion of predetermined size of the total disk storage space includes restricting the reserved portion of predetermined size of the total disk storage space from being included in the single combined virtual storage drive.

24. (New) The method of claim 1 additionally including monitoring at least one of the grid computers for activity indicating that a total of disk storage space on the at least one grid computer has been increased.

25. (New) The method of claim 1 wherein monitoring includes determining that a total disk storage space on the at least one grid computer has been increased by the addition of a disk drive to the at least one grid computer.

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26. (New) The method of claim 8 additionally including receiving on the one grid computer, from the local user of the one grid computer, designation of a minimum amount of free disk storage space to be maintained on the disk drive of the one grid computer.